PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 7451.011-304	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US 99/ 05734	International filing date *(day/month/year)* 16/03/1999	Priority date *(day/month/year)* 16/03/1998

International Patent Classification (IPC) or national classification and IPC
H04N7/167

Applicant
INTERTRUST TECHNOLOGIES CORPORATION

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of _____ sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consists of a total of _____ sheets.

3. This report contains indications relating to the following items:

   I ☒ Basis of the report

   II ☐ Priority

   III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   IV ☒ Lack of unity of invention

   V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   VI ☐ Certain documents cited

   VII ☐ Certain defects in the international application

   VIII ☒ Certain observations on the international application

Date of submission of the demand 15/10/1999	Date of completion of this report 12. 05. 00
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Form PCT/IPEA/409 (cover sheet) (July 1998)   (13/04/2000)
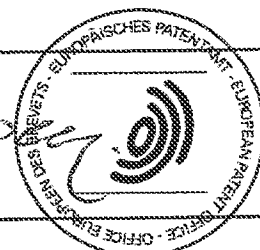
I.   Basis of the report

1. This report has been drawn up on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*

☐   the international application as originally filed

☒   the description, pages   1-74   , as originally filed

                        pages   , filed with the demand

                        pages   , filed with the letter of

☒   the claims, Nos.   , as originally filed

            Nos.   , as amended under Article 19

            Nos.   , filed with the demand

            Nos.   1-21   , filed with the letter of   15/10/99

☒   the drawings, sheets / fig.   1/38-38/38   , as originally filed

            sheets / fig.   , filed with the demand

            sheets / fig.   , filed with the letter of

2. The amendments have resulted in the cancellation of:

☐   the description, pages:

☒   the claims, Nos.   1-26 as initially filed

☐   the drawings, sheets / fig.

3.   ☐   This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2 (c)).

4. Additional observations, if necessary:

IV.   Lack of unity of invention

1. In response to the invitation (Form PCT/IPEA/405) to restrict or pay additional fees the applicant has:

☐   restricted the claims.

☐   paid additional fees.

☐   paid additional fees under protest.

☒   neither restricted nor paid additional fees.

2.   ☒   This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

Whereas claims 1-20 are directed to a "streaming media player providing contents protection and digital rights management" independent claim 21 refers to a "method of rendering a protected digital bit stream". In the present case, the said "streaming media player" claimed in claims 1-20 comprises only a single port (see in particular (a) in Claim 1), whereas the subject-matter of present independent claim 21 includes "first and second plug-ins" in order to process the supplied digital bit stream.

Furthermore, the operation of the subject-matter claimed in present independent claim 21 is controlled by the content of first and second header information. However, such first and second headers are not claimed in present claim 1 nor are implicitly included in the subject-matter of this claim since the operation of this subject-matter is based on the content of a "secure container" comprising cryptographic keys for extraction by a control arrangement for decrypting the encrypted portion of the bit stream.

Because of these differences, it appears that the subject-matter of present independent claims 1 and 21 are quite different from each other respectively so that these two claims do not seem to be linked together by a common technical concept, at least for the time being on the basis of the submission put forward above.

Nevertheless, the provision of Rule 68.1 of the PCT should be applied since the question of unity is intended to be dealt with later on in the national/regional phase of this PCT-application. However, the applicant is entitled and invited to comment on this question of unity if he considers it as being expedient.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this
    report:

    ☒   all parts.

    ☐   the parts relating to claims Nos.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty	Claims	1-21	YES
	Claims		NO
Inventive Step	Claims	21	YES
	Claims	1-20	NO
Industrial Applicability	Claims	1-21	YES
	Claims		NO

2. Citations and Explanations

1.   <u>Claim 1</u>:

EP-A-0 714 204 101 (D1) discloses in Figures 7-9 and the accompanying descriptive text (page 6, lines 10-30):

- a streaming media player (page 6, line 11) providing content protection and digital rights management, including:

  (a) a port configured to receive a digital bit stream (here a "scrambled recording signal"), the digital bit stream including at least two sub-streams (here called a "bitstream" and a "keystream") which have been mixed together, at least one of the sub-streams including compressed information, the digital bit stream including:

    - content which is encrypted at least in part (here the split keystream is encrypted: see page 6, line 18); and

    - a secure container including control information for controlling use of the content, including at least one key (KS produced by smart card 3 in Figure 7) suitable for decryption of at least a portion of the content; and

(b) a control arrangement (smart card 3) including:

-   means (12-15 in Figure 9) for opening secure containers and extracting cryptographic keys (KS), and

-   means (11 in Figure 9) for decrypting the encrypted portion of the content;

(c) a demux (see "transport demultiplexer" in Figure 7) designed to separate and route the sub-streams;

(d) a decompression unit (here a "video/audio-decoder" in Figure 7) configured to decompress at least one of the sub-streams, the decompression unit and the demux being connected by a pathway for the transmission of information;

(e) a rendering unit designed to process decompressed content information for rendering (such unit is implicit in Figure 7 of D1 since otherwise no video/audio display or recording/reproducing would be realisable); and

(f) a feedback path (see in Figure 7 the connecting line between smart card 3 and the box entitled "micro controller") from the rendering unit to the control arrangement to allow the control arrangement (3) to receive information from the rendering unit.

As far as it can be assessed on the basis of the present obscure claim wording (see the corresponding statements made under Section VIII of this Written Opinion) the subject-matter of present claim 1 appears to differ from the above-cited prior art in that feature (f) of present claim 1 additionally claims that the information received by said control arrangement from said rendering unit "regards the identification of objects which are to be rendered or have been rendered".

However, as to this difference, it is not apparent that it is an essential feature and based on an inventive step since the digital bit stream received by the known streaming media player likewise comprises objects to be displayed or recorded/reproduced so that such objects can likewise be identified by the operator.

Therefore it is not apparent that this claim comprises subject-matter which is patentable and inventive over the above-cited prior art.

2. Claims 2 and 3:

The player disclosed in Figure 7 of D1 likewise comprises:

(g) a stream controller (included in smart card 3) operatively connected to the decompression unit, the stream controller including decryption functionality (see units 12 and 13 in Figure 9) configured to decrypt at least a portion of a sub-stream and pass the decrypted sub-stream to the decompression unit.

The player of D1 further includes:

(h) a path (internally provided in smart card 3) between the control arrangement (11) and the stream controller (12, 13) to enable the control arrangement to pass at least one key to the stream controller for use with the stream controller's decryption functionality (see also page 6, lines 24-28).

The above statements appear to demonstrate that the features of present sub-claims 2 and 3 are likewise derivable from D1 so that it is not apparent either that the features of these two claims are based on an inventive step.

3. Claims 4-20:

The features claimed in these claims are either known from the above-cited prior art or at least fall within the common knowledge of the person skilled in this art since these claims comprise only subject-matter which is commonly used in the technical field addressed by the subject-matter claimed in independent claim 1.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. <u>Claim 1</u>:

    a) As to claimed feature (a), it is not clear what the "two sub-streams" are composed of and whether one of these two sub-streams comprises the claimed "encrypted content", whereas the other of said two sub-streams is represented by the claimed "secure container". If so, this fact should be made clear in this claim since otherwise it is completely left open as to how and in what way said two sub-streams are structured and configured and whether these sub-streams are provided <u>in addition to</u> said encrypted content and said secure container.

    b) As to claimed feature (b), it remains obscure here as to how and in what way the said secure containers are "opened" by the claimed opening means since no further structural details concerning these "opening means" are indicated in this claim.

Furthermore, as to the claimed "means for decrypting ...", the question arises by what element such decrypting is achieved here and whether such decrypting is realised by the extracted cryptographic keys mentioned further above in this claim.

Therefore this feature is likewise considered to be obscure and should be clarified in an adequate manner in order to eliminate this obscurity.

    c) Having regard to claimed feature (d), this feature mentions "... transmission of information" without, however, further indicating what kind of "information" is to be transmitted here.

    d) As to claimed feature (e), it remains obscure here as to how and in what way said decompressed content information is to be "processed" in order to render this information.

e)   Having regard to the last part of claimed feature (f), the question arises here what kind of "objects" are to be identified and rendered and how and in what way such "identification" is to be carried out here since all these points are completely left open in this claim.

Because of all these deficiencies this claim is considered to be obscure in all these aspects mentioned further above.

2.   Claim 2:

As to the "stream controller" indicated in feature (g) of this claim, the question arises whether this feature is identical with the "means for decrypting ..." specified under letter (b) in present claim 1. If so, identical terms for identical technical units should be used throughout the claims.

3.   Claim 6:

As to the feature concerning "a rule or rule set", the question arises as to how and in what way such a "rule or rule set" is structured and how and in what way this feature "governs" a sub-stream or object as is additionally claimed in this claim since further details clarifying these points are completely missing in this claim.

4.   Claim 14:

This claim indicates amongst others that the said second device "lacks at least one feature present in the streaming media player" without, however, indicating which feature is really lacking.

Furthermore, this claim also indicates that said second device "is at least somewhat more portable than the streaming media player". Here the question arises in what way said second device should be "more portable" and which structural feature or features contribute towards this new property since such features are not indicated in this claim.

5.   Claim 15:

This feature appears to be repetitive of preceding Claim 6 and, for this reason, should be cancelled as being superfluous.

6.   Claim 17:

It is not clear what is meant by "one aspect of operation ..." since such "aspect" is not defined in this claim.

7.   Claim 18:

As to the term "budget" indicated in this claim, it remains fully obscure what is meant by this term and how it is defined.

8.   Claim 19:

As to the term "audit information" specified in this claim, the question likewise arises as to how and in what way such "audit information" is defined and structured and what source does it come from since all these points are left open in this claim.

9.   Claim 20:

This claim only specifies a desired property of said control arrangement without, however, indicating the technical feature or features by which the claimed property (here "tamper resistance") is achievable.

Therefore this claim is likewise deficient in this respect because of lack of clarity.

10.   Claim 21:

a)   As to the claimed feature "the first plug-in reading second header information identifying a second plug-in ...", the question arises whether said "second header information" is located in the already decrypted portion of the protected digital bit stream or whether this information is still in the protected digital bit stream so that it is not clear here where and at what position said "second header information" is arranged within said digital bit stream.

b)   Whereas it is indicated in this claim that "the first plug-in decrypts at least a portion of the protected digital bit stream ..." and "... the second plug-in possesses the decrypted digital bit stream ...", it is left open here what happens with the non-decrypted portion of the protected digital bit stream if only a portion of this bit stream is decrypted.

This point is completely left open and therefore likewise lacks clarity in this respect because of incompleteness of the technical teaching claimed.

c)   Whereas this claim mentions a "first plug-in" and a "second plug-in" which both contribute towards processing of the digital bit stream applied to these plug-ins, the last two lines of this claim specify that "the first plug-in may be used in an architecture not designed for multiple stages of plug-in processing". This latter statement, however, appears to be contradictory to the preceding features claimed in this claim since the provision of "first and second plug-ins" represents in fact a "multiple stage plug-in processing" described by the overall teaching of this claim.

11.   Because of the deficiencies listed above, the claims here under consideration should be amended correspondingly in order to remove these clarity objections.